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ABSTRACT

5 The present invention describes *Histoplasmosis capsulatum* chitin synthase nucleic acid and protein sequences as reagents for the detection of *H. capsulatum* infection. Specifically, the invention describes intron sequences from the *H. capsulatum* chitin synthase gene which can be used for hybridization-based and PCR-based detection of *H. capsulatum* infection. In another embodiment, assays for *H. capsulatum* chitin synthase 2 polypeptide and/or mRNA used as a diagnostic test for *H. capsulatum* 10 infection and/or histoplasmosis. Also described is the differentiation of *H. capsulatum* from *Blastomyces dermatitidis* based on detection of intron 1 sequences specific to *H. capsulatum* chitin synthase 2. The present invention also comprises the production of *H. capsulatum* strains lacking functional chitin synthase 2 as a means to produce *H. capsulatum* having reduced pathogenicity.

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